transmitting an S2 channel off-hook message to the business communication system. Interrupt service routine 212 transmits the S2 channel off-hook message with the appropriate header and message length bytes to CPU 330. CPU 330 decodes the header portion of this message to determine the destination to which this message is intended and forwards the control message over CPU address, control and data bus 203 to HDLC device 315. Switch DLI 310 retrieves the S2 channel off-hook message from HDL device 315 and formats this message into a DCP message frame and forwards the frame to the business communication system over communication leads TR51. The business communication system responds to the received S2 channel off-hook message by transmitting an S2 channel ringer off message with the test "Answered" to DCP interface card 201. Switch DLI 310 routes this S2 channel ringer off message to HDLC device 315 where it is retrieved by CPU 330. CPU 330 appends the appropriate header and message length bytes to this S2 channel ringer off message and forwards the resultant message frame to interrupt service routine 212 by way of PC Bus interface 334. Interrupt service routine 212 responds to the received S2 channel ringer off message from the business communication system by automatically sending a control message to CPU 330 to initialize the data protocol code. The remaining portion of the coil setup sequence is as described above for a data call originated at PC51. When the connection is complete, the data communication between source and destination continues until one party terminates the call at which time the call is broken down as described above for a data call originated by PC51.

Calls To and From Adjunct Telephone Station Set

The processing of originating voice and data calls from adjunct telephone station set T51 is similar to voice and data calls originated from PC51. The only significant difference is that data calls can be originated only when bypass switches 301 are in the direct connect mode and also that the originating stimulus is generated by adjunct telephone station set T51 and routed by phone DLI 320 to HDLC device 325 where it is stored for retrieval by CPU 330. CPU 330 appends the appropriate header and message count bytes to these call origination messages then forwards them to interrupt service routine 212. Interrupt service routine 212 forwards the received S1 channel (for voice originated calls) control messages to memory 208 and application interface 213 for communication management application 210. Communication management application 210 updates the screen on PC51 to indicate the call origination status of adjunct telephone station set T51. The processing of the remainder of this originated call is identical to that described above for calls originated from PC51.

Incoming voice or data calls to adjunct telephone station set T51 are processed identically to incoming calls for PC51 as described above. The only difference is that data calls can be received only when bypass switches 301 are in the direct connect mode between the business communication system and the adjunct telephone station set T51.

SUMMARY

It is obvious from the above description that PC51 has access to the S1 and S2 channel control messages between adjunct telephone station set T51 and the business communication system. The communication management application 210 described above is a simple message handling process which can be supplemented by application software running on processsor 209. This application software can provide additional features and services by responding in more substantive fashion to the S channel messages received by communication management application 210. In this fashion, the application process can modify the content of the S1 and S2 channel messages between the business communication system and adjunct telephone station set T51 rather than simply forwarding these messages.

While a specific embodiment of the invention has been disclosed, variations, in structural detail, within the contemplated. There is no intention of limitation to what is contained in the abstract or the exact disclosure as herein presented. The above-described arrangements are only illustrative of the application of the principles of the invention. Normally, other arrangements may be devised by those skilled in the art without departing from the spirit and the scope of the invention.

What is claimed is:

1. In a communication system having a plurality of port circuits, each of which is connected to a corresponding terminal device and communicates with said corresponding terminal device according to a predetermined protocol, an interface apparatus associated with at least one of said terminal devices and comprising:

processing means;

means interposed between said at least one terminal device and its corresponding port circuit for terminating communication signals passing between said at least one terminal device and said port circuit and also connected to said processing means for connecting said processing means to both said port circuit and said at least one terminal device; and

wherein said processing means is responsive to receipt of said communication signals from said port circuit or said at least one terminal device, for determining from said received communication signals a service to be provided and for communicating with said port circuit or terminal device according to said protocol to provide said service.

2. The apparatus of claim 1 wherein said processing means includes:

means responsive to voice communication signals received from said port circuit from transmitting said voice communication signals as originally received to said terminal device.

3. The apparatus of claim 1 wherein said processing means includes:

means responsive to voice communication signals received from said terminal device for transmitting said voice communication signals as originally received to said port circuit.

4. The apparatus of claim 1 wherein said processing means includes:

means responsive to call control signals received from said port circuit for forwarding control signals to said terminal device to perform a call control function corresponding to said call control signals.

5. The apparatus of claim 4 wherein said processing means further includes:

means responsive to said call control signals for writing a control message corresponding to said call control signals on a video monitor associated with said processing means.